

Serial No.: 10/720,173
Docket No.: 102-1003
Amendment After Final dated July 6, 2007
Reply to the Final Office Action of May 8, 2007

REMARKS

Introduction

Applicant notes with appreciation the Examiner's indication that claims 3, 5, 7, 12-18, 21-23 and 26-30 would be allowable if rewritten in independent form. Applicant also notes with appreciation the Examiner's indication that each of the references cited in the Information Disclosure Statement of March 13, 2007 have been considered.

Upon entry of the foregoing amendment, claims 1-31 are pending in the application. Claims 1, 6, 8, and 31 have been amended. No new matter or new issue is being presented. In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the claim amendments: (a) place this application in condition for allowance (for the reasons discussed herein), (b) do not raise any new issues requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution as indicated in the Final Office Action), (c) present the rejected claims in better form for consideration on appeal (should an appeal be necessary), and (d) are necessary and were not earlier presented because they are made in response to arguments raised in the Final Office Action.

Accordingly, for at least the reasons discussed above, entry of this Amendment is respectfully requested.

Rejection under 35 USC §102

Claims 1, 4, 6, 8, 24-25 and 31 have been rejected under 35 U.S.C. §102(e) as being anticipated by Applicant's Admitted Prior Art (hereinafter "AAPR").

Independent Claim 1

The Examiner alleges in the Office Action mailed on May 8, 2006, that "Applicant's arguments filed on 02/01/07 have been fully considered but they are not persuasive" (Page 9,

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lines 8-9). However, Applicants respectfully submit that AAPR does not teach or disclose, among other things, “a buffer to output the signal having the converted level, and a transient time extending part comprising at least two time extending elements to extend the signal from the buffer by a transient time of the output potential level of the signal during which the potential level of the signal inputted from the level converter to the switching unit is converted from a first signal level to a second signal level and vice versa,” as presently recited in independent claim 1. More specifically, AAPR is limited to a level shift unit 140 with a level converter 142 and a buffer 144. There is no mention of a transient time extending part as recited in independent claim 1. See FIG. 2 of AAPA. Even if the Examiner were to interpret one FET of the buffer 144 as being a transient time extending part, and the other FET as being a buffer, as recited in independent claim 1, the Examiner’s arguments have become moot in view of currently amended independent claim 1.

Therefore, AAPA does not teach or disclose, among other things, “a buffer to output the signal having the converted level, and a transient time extending part comprising at least two time extending elements to extend the signal from the buffer by a transient time of the output potential level of the signal during which the potential level of the signal inputted from the level converter to the switching unit is converted from a first signal level to a second signal level and vice versa,” as presently recited in independent claim 1.

It is well known that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as contained in the...claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). “The elements must be arranged as required by the claim...” In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Accordingly, since the admitted prior art does not explicitly teach every element as recited in independent claim 1, the admitted prior art cannot be properly used to reject independent claim 1 under 35 U.S.C. § 102. Therefore, it is respectfully submitted that independent claim 1 is allowable over the admitted prior art, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

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Dependent Claim 4

With respect to claim 4, it is respectfully submitted that for at least the reason that claim 4 depends from independent claim 1, which is patentably distinguishable from AAPR for at least the reasons provided above, and therefore contains each of the features as recited in independent claim 1, dependent claim 4 is also patentably distinguishable from AAPR, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

Independent Claim 6

As per the Examiner's suggestion, independent claim 6 has been amended to include the limitations of allowable claim 7, thereby making independent claim 6 allowable as presently recited. Accordingly, dependent claim 7 has been cancelled. Therefore, withdrawal of this rejection and allowance of this claim are earnestly solicited.

Independent Claim 8

Regarding independent claim 8, Applicants respectfully submit that AAPR does not teach or disclose, among other things "a level shift unit including a first portion generating a first nozzle selection signal having a first transient time, during which a level of the first nozzle selection signal is changed between first and second levels, in response to the control nozzle selection signal, a second portion generating a second nozzle selection signal having a second transient time extended by a period from the first transient time of the first nozzle selection signal, and a buffer to output the changed levels of the first and second selection signal," as presently recited in independent claim 8. More specifically, AAPR is limited to a level shift unit 140 with a level converter 142 and a buffer 144. There is no mention of "a level shift unit including a first portion generating a first nozzle selection signal having a first transient time, ..., a second portion generating a second nozzle selection signal having a second transient time a transient time, ..., and a buffer to output the changed levels of the first and second selection signal," as presently recited in independent claim 8. See FIG. 2 of AAPA. Even if the Examiner were to interpret one FET of the buffer 144 as the first portion of the level shift unit, and the other FET as being a buffer, as recited in independent claim 8, the Examiner's arguments have

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become moot in view of currently amended independent claim 8, which includes a first portion, a second portion, and a buffer.

Therefore, AAPA does not teach or disclose, among other things, “a level shift unit including a first portion generating a first nozzle selection signal having a first transient time, during which a level of the first nozzle selection signal is changed between first and second levels, in response to the control nozzle selection signal, a second portion generating a second nozzle selection signal having a second transient time extended by a period from the first transient time of the first nozzle selection signal, and a buffer to output the changed levels of the first and second selection signal,” as presently recited in independent claim 8.

Accordingly, since the admitted prior art does not explicitly teach every element as recited in independent claim 8, the admitted prior art cannot be properly used to reject independent claim 8 under 35 U.S.C. § 102. Therefore, it is respectfully submitted that independent claim 8 is allowable over the admitted prior art, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

Dependent Claim 24-25

With respect to claims 24-25, it is respectfully submitted that for at least the reason that claims 24-25 depend from independent claim 8, which is patentably distinguishable from AAPR for at least the reasons provided above, and therefore contain each of the features as recited in independent claim 8, dependent claims 24-25 are also patentably distinguishable from AAPR, and withdrawal of this rejection and allowance of these claims are respectfully solicited.

Independent Claim 31

Applicants respectfully submit that AAPR does not teach or disclose, among other things, “a level shift unit to convert the nozzle selection signal to have a predetermined level to drive the heating element between a logic high and a logic low, and having a buffer to output the converted nozzle selection signal, and two or more logic units to increase a time required to change the output nozzle selection signal between the logic high and the logic low,” as presently recited in independent claim 31. More specifically, as shown above with reference to independent claim 1, AAPR is limited to a level shift unit 140 with a level converter 142 and a

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buffer 144. See FIG. 2 of AAPA. There is no mention of "a second logic unit to increase a time required to change the output nozzle selection signal between the logic high and the logic low," as presently recited in independent claim 31. Even if the Examiner were to interpret one FET of the buffer 144 as a first logic unit, and the other FET as being a buffer, as recited in independent claim 31, the Examiner's arguments have become moot in view of currently amended independent claim 31.

Therefore, AAPA does not teach or disclose, among other things, , "a level shift unit to convert the nozzle selection signal to have a predetermined level to drive the heating element between a logic high and a logic low, and having a buffer to output the converted nozzle selection signal, and two or more logic units to increase a time required to change the output nozzle selection signal between the logic high and the logic low," as presently recited in independent claim 31.

Accordingly, since the admitted prior art does not explicitly teach every element as recited in independent claim 31, the admitted prior art cannot be properly used to reject independent claim 31 under 35 U.S.C. § 102. Therefore, it is respectfully submitted that independent claim 31 is allowable over the admitted prior art, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

Rejection under 35 USC §103

Claims 2, 9-11 and 19-20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over AAPR in view of U.S. Patent No. 6,273,537 to Hiwada.

Claims 2, 9-11, and 19-20 depend from allowable independent claims 1 and 8, respectively, and therefore include each of the features of these claims. The Examiner acknowledges that the admitted prior art does not disclose the features of claims 2, 9-11, and 19-20. See Office Action of May 8, 2007 page 7. However, the Examiner relies on Hiwada as allegedly teaching the features that the admitted prior art lacks. See Office Action of May 8, 2007 page 7.

Applicant respectfully submits that even if Hiwada does in fact teach the features of

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these dependent claims, as alleged by the Examiner, the admitted prior art and Hiwada, either separately or in combination with one another, fail to teach or suggest a level shift unit having a level converter converting a potential level of a signal inputted therein into a predetermined potential level to drive the switching unit, a buffer to output the signal having the converted level, and a transient time extending part comprising at least two time extending elements to extend the received signal from the buffer by a transient time of the output potential level of the signal during which the potential level of the signal inputted from the level converter to the switching unit is converted from a first signal level to a second signal level and vice versa,” as presently recited in independent claim 1, and “a level shift unit including a first portion generating a first nozzle selection signal having a first transient time, during which a level of the first nozzle selection signal is changed between first and second levels, in response to the control nozzle selection signal, a second portion generating a second nozzle selection signal having a second transient time extended by a period from the first transient time of the first nozzle selection signal, and a buffer to output the changed levels of the first and second selection signal,” as presently recited in independent claim 8 of Applicant’s invention. Accordingly, claims 2, 9-11, and 19-20 are patentable over the references relied upon by the Examiner at least by virtue of their dependency on independent claims 1 and 8, respectively, and withdrawal of the rejection and allowance of these claims are earnestly solicited.

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Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 502827.

Respectfully submitted,

STANZIONE & KIM, LLP

Dated: July 6, 2007
919 18th St., NW, Suite 440
Washington, DC 20006
Telephone: (202) 775-1900
Facsimile: (202) 775-1901

By: _____


Seungman Kim
Registration No. 50,012